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LABOR SAVING MACHINERY

BY

DINGMAN VERSTEEG

Author of "THE FOLLY OF TARIFFS."

For

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THE HUMBOLDT PUBLISHING CO.

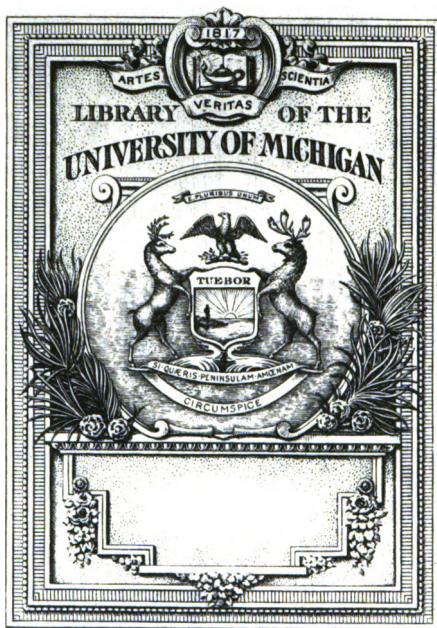
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BY
DINGMAN VERSTEEG

AUTHOR OF

"THE FOLLY OF TARIFFS "



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IN PREPARATION :
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INTRODUCTION.

One of the principal forms in which capital appears and is used in the production of commodities is in the shape of tools and implements. The more efficient tools and implements one uses, the easier his task will be, and the greater, also, will be the product of his labor. Upon this simple principle rests the usefulness of labor saving machinery, which is nothing but greatly improved tools and implements.

All productive labor is carried on for the purpose of satisfying human wants, and consequently, the more commodities the labor of the members of a society produces, the better the wants of those members can be satisfied. If, in a less developed state of agriculture, for instance, it requires ten men to produce a thousand bushels of wheat, while in a more developed state with the same number of laborers ten thousand bushels can be produced, it is plain that wheat will cost little more than one-tenth as much as formerly, thus enabling the members of that society to expend a large part of their earnings in the purchase of other commodities.

It is the same in building. When, owing to the absence of efficient tools in cutting and preparing lumber, making brick and producing other building materials, it costs five times as much to build a house as it would cost if efficient tools were used, it is plain that most people will have to be satisfied with sorry apologies for houses, where otherwise they might have large, airy dwellings at the same cost, especially

in the country or in smaller cities where ground rents are low.

Turning to printing, we shall see the same. Before labor saving machinery was extensively utilized in printing, very few people could own many books, read newspapers, buy magazines or possess engravings and other products of the printer's industry. Their cost was too high. But since the general introduction of labor saving machinery in the printing business, the output of the printing presses has been increased ten thousand fold and over ; several times more people than ever before are employed in the production and distribution of books, newspapers, magazines, circulars, etc., etc., while thousands of others find employment in type foundries, ink factories, paper mills, printing press factories, binderies, and the many other occupations which are either directly or indirectly dependent upon a large output of the printing presses.

Labor saving appliances, together with chemical and other discoveries, also lead to a decrease of agricultural rents, because, by rendering the soil more productive, and therefore making it yield larger returns, these have the same effect as if more land were used, and thus either throw some land out of the market, or else make it practicable to use it for other purposes, as building lots, meadows, parks, flower gardens, etc. It is on this account that scientific farming, fruit and vegetable raising, etc., are of the greatest benefit, not only to individual producers, but to society as well.

It is customary with many people to very much belittle the services, labor saving inventions have rendered, and are daily yet rendering, not only to society, but to every individual member of it. Every cut in wages, every stagnation in business, every scar-

city of employment is, in the absence of a more conspicuous scapegoat, charged to labor saving machinery. Yet, nothing is less true, and the aim of the following pages will be, to try to show the beneficial influence it has exercised upon individual prosperity as well as social progress. For this purpose these pages will treat of LABOR SAVING MACHINERY IN ITS RELATION TO Cities, Civilization, Political Supremacy, The Good Old Times, Agriculture, Manufacturing, Commerce, Art, Stores, Employment, Woman and Child Labor, Difference in Wages, Overproduction, The Labor Question.

CHAPTER I.

CITIES.

Cities are as necessary for the world's development, and the advancement of civilization, as is the country for furnishing food and the materials for clothing, shelter and fuel. While it is undoubtedly true that city life, as at present constituted, is not, as a rule, conducive to producing the higher physical type of womanhood or manhood, it is true, nevertheless, that city life develops the mental faculties, intensifies the power of observation and reasoning. The great many phases of city life, furthermore, render the dwellers within their gates more apt to accept progressive changes, to reject time-honored superstitions, and to be more tolerant of diverging opinions than the isolated dwellers of the country.

It was in the cities that the mighty mental battles for progress and liberty were decided, while those very cities, also, were the bulwarks against tyranny and oppression. The man with an idea is obliged to resort to the cities to see it realized, and the philosopher who desires to find converts for the creed he is about to propound, usually is forced to disseminate his doctrines before city audiences, whence, if they are at all acceptable, they slowly spread to the country districts. Inventors, experimenters, artists, authors, and most men of talent in one pursuit or another are nearly always forced to go to the cities in order to gain recognition, while even most of the industries through whose products agriculture and the tilling of the soil in general can only be successfully carried on, are

usually located in, or within easy distance of, the cities.

The cities naturally are the centers and distributing points of the arts, the sciences, literature, the great industries, the artistic trades, the world's commerce, the great financial institutions, and all those revelations of human ingenuity in production and distribution which are at once the product and the origin of large populations. Without large cities the world would still be in almost utter intellectual darkness, while the iron heel of tyranny would be upon the neck of nearly every nation. It is for all those reasons that the city is as necessary to the welfare of the country, as the country is to the life of the city. They complement each other. God made the country, but He gave man the intellect to build cities, and thus to enable the human race to reach a higher, more perfect plane of development.

The world's great industries, as said before, are located almost exclusively in or near large cities, because industry as well as commerce thrive best, can produce and distribute cheapest in the midst of the teeming thousands, within the radius of large populations. Almost every industry is dependent for its growth upon the co operation of other industries which either furnish it with material it uses, or machinery and other necessities it needs. The more closely together similar inter-dependent industries are located the easier and cheaper they can furnish each other with what each wants, saving much expense and delay, and thus in reality decreasing the cost of production. It is for those reasons that only exceptional advantages will cause isolated enterprises to flourish and attain gigantic proportions. For those reasons also the dwellers in the country districts can buy their necessities

cheapest, and sell their own products dearest, where favorable conditions render the growth of large commercial and industrial centres possible. It is for these reasons, also, that the country people ought not to be jealous of, or antagonistic to, the large cities, because, even if cities grow rich and influential they do not do so by taking aught from the country districts, for which they do not render an equivalent. The more flourishing a country's cities are, the more flourishing its rural districts must be, and the more prosperous the rural districts, the more prosperous the cities must become. That the country can get along as little without the city, as the city can get along without the country, was plainly shown during the great railroad strike at Chicago. While the perishable product of farm, orchard, dairy and truck garden was spoiling and deteriorating for lack of transportation to markets, the mechanic, the factory operative, the clerk and many other dwellers in the cities actually suffered because they could not be provided with those necessary products. The city dweller would have starved, the agriculturist would have been deprived not only of most of the comforts and many necessities of life, but even of the principal tools and implements, needed in his business, if the strike should have lasted much longer. The fact is that the city is as necessary to the successful raising of country produce, as the direct labor of the farmer himself, for as has been stated before, the majority of the great agricultural implement works, as well as several other necessary auxiliaries to farming and other branches of agriculture, are of necessity mostly located in or near the cities. It is only owing to those city made labor-saving devices in the shape of implements, fertilizers, etc., that the tilling

of the soil can be at all remunerative : getting the greatest possible returns, at the least possible outlay of labor and expense.

Where cities, then, occupy such a useful, nay, absolutely necessary position in regard to the world's progress and the people's prosperity, it showed little concern for real progress in a noted European diplomatist to "wish that all great cities, because hot-beds of revolution, should be swept off the surface of the earth." Every tyrant, every usurper of popular rights, has always feared as well as hated the cities, because he knew that the country, owing to its sparsely settled, widely scattered, unorganized, unprotected population, was easily kept in bondage, or, if aroused, could be put down with little trouble, while in the cities progressive ideas not only found easy lodgment, but their citizens were always ready and able to successfully battle for them.

And right here it must be evident that labor saving machinery and its allies have exercised the greatest influence upon, have even been the making of all cities. The barbarous nations who do everything by hand cannot have cities, because the product of their labor amounts to so little that scarcely an individual among them can spare anything to employ others in working for him. As soon, however, as even the simpler forms of labor saving machinery are being applied, large villages and small cities begin to dot the surface of the country, and grow in number and importance in relation to the increase and improvement of labor saving devices among them, until they attain to the magnitude of the British and American cities, where, of all countries on the globe, labor saving machinery is most developed and most generally applied. This

increase in number and growth in population of cities is caused not only through the development of international relations, as a result of labor saving machinery, but is first of all owing to the triumph of the inventor over the opposing forces of nature, thus enabling millions of former tillers of the soil to congregate in cities, and there to be employed in the thousands of occupations which a manifold increased productiveness, and an ever widening commercial intercourse, have brought into existence. And ever more denizens of the country districts will seek and find employment in the cities, the more labor saving machinery and other devices render it easy to dispense with human labor in the production of foodstuffs, thereby not only increasing their yield but also lessening their cost. The growth of industries, and consequently of cities, is based upon the economic law that "the saving in the cost price of certain commodities will either increase the demand for those commodities, or else create an increased demand for other commodities." This trait of human nature leads to the opening up of new, or the extending of existing employments, and, consequently, the people who are no longer wanted for producing agricultural products, are very much needed for producing those commodities for which the demand has increased or been created, owing to the fall in the price of foodstuffs. It is on account of this cheapening of agricultural, as well as all other commodities, that where there existed one populous city in times gone by, there are a score of them now, out of proportion to the increase of the world's population, it is true, but in exact proportion to the application and perfection of production increasing appliances.

CHAPTER II.

CIVILIZATION.

When comparing the general state of civilization between those countries where labor saving machinery is most extensively used, and those where it is very little known, we shall find that civilization in the former not only reaches higher, but, which is much more important, goes very much deeper, and rests upon a broader foundation. This is because, owing to the general and diversified use of labor saving machinery, wealth not only increases very much, but the larger portion of that increase finds its way among the masses. Civilization is primarily a question of income or earnings, and working hours. Where the people are obliged to slave from early morning till late at night for the veriest necessities of life, for the purpose of just existing and nothing more, there the yearnings for higher, if at the beginning they even do exist, are absolutely smothered in the vain struggle, through long hours, and for scanty reward, against hopeless poverty. It is undoubtedly true that decent earnings, because they enable a man to procure decent quarters, decent food, decent clothing, decent surroundings, decent amusements, and a decent education for his dependents, tend to increase one's self respect, and self-respect in its individual citizens is the foundation stone of the whole grand structure of national civilization, because a self-respecting man has a boundless regard for the rights and feelings of others, which, in fact, is the essence of all civilization. Where wages are so small that the

head of a family cannot, through his own efforts, decently bring up his children, so as to be able to house, dress, feed, educate them well, he feels humiliated and is very apt to lose much of his self-respect; while his children are very likely to have even less. This process of degeneration, extending through several generations, at last often ends in the pauperism, misery and crime of the slums. Labor saving machinery because, through higher wages and shorter hours of labor, it actually elevates the workers in the social scale, may be justly considered an invaluable auxiliary in the civilizing process of the world, and perhaps has done, and in the future will do, more towards elevating the masses than all other active agencies combined.

It is on account of the comparatively high wages in the United States, as well as owing to the broad middle class (both the result of the unlimited employment of labor saving machinery) that popular government in this country is not a failure as so many European statesmen and upholders of aristocratic notions cordially hoped, and confidently prophesied it would be. And this triumphant democracy will become even more of a success as soon as this country has thrown off the legal trammels it has forged for itself, and which not only have prevented it from occupying the industrial, commercial and financial position it ought long since to have taken, but which also prevent its toiling masses from deriving the full benefits of the mechanical inventions and chemical discoveries of the century, thus in reality retarding the onward march of national civilization.

Whatever, in conclusion, may be said about the rich getting richer and the poor poorer, nevertheless it is

a fact, proved by statistics as well as by actual observation, that the most progressive countries at the present time see the number of their poor decreasing, while the wages or earnings of the toiling masses have very much increased, and the cause of civilization and general enlightenment has undoubtedly made much progress, as a result of the application of modern advanced methods in the production and distribution of commodities.

CHAPTER III.

POLITICAL SUPREMACY.

History abounds in examples of the political supremacy of those nations which are ahead of others in the use of labor saving appliances.

It was through the utilization of labor saving machinery, as then known, that the great industrial and commercial centres of antiquity and the middle ages became opulent and powerful. It was the wealth, created from the almost exclusive use of labor saving appliances, as known two and a half centuries ago, which raised little Holland to the foremost rank among the nations of that period. It is labor saving machinery which, at the present time, renders Great Britain the mistress of the sea, and the most feared adversary of the northern colossus, Russia, whose adherence to old and time-worn institutions and industrial methods keeps it poor, notwithstanding its almost boundless natural wealth. It is the more extensive use of wealth creating appliances as well as western advanced methods in warfare and government which, just at present, enable the small forces of

the little island kingdom of Japan to withstand and defeat the immense armies and navies of the gigantic, but backward, Chinese empire.

The verdict of history is that nations which, in every respect, adopt the best and most improved labor saving devices in all their enterprises will not only become the most wealthy, will not only enjoy the most progressively stable institutions, will not only see their laboring population enjoy the shortest hours of toil, and the highest wages, will not only see art and literature and the sciences flourish among them more than anywhere else, but will also, in a political sense, be far ahead of those equals in population and natural resources, whose industrial methods are inferior to theirs, and whose industries adhere to devices which experience has shown to be backward and ineffective.

So thoroughly were England's law makers, in former years, convinced of the all-powerful influence of labor saving machinery upon national greatness and political supremacy that more than once stringent laws were passed, prohibiting the export of any machinery or portion of it, not only to foreign countries, but even to the colonies.

CHAPTER IV.

THE GOOD OLD TIMES.

In Europe, more than in the United States, one hears much about those good old times, when wages were high, commodities cheap, labor plentiful, and the accursed labor saving machinery had not yet been invented to oppress and degrade the poor workingman.

Thousands of people, from sheer ignorance of the real facts, are thus fond of extolling, and wishing back, times which were a hundred fold worse than our own. This is not only shown by the pages of history, but a stroll through the narrow streets of any stationary ancient town will soon convince the observant beholder. What kind of houses the great masses of working people, in those good old times, were obliged to live in? The very best among them were low, small concerns, not much larger than huts. Where was there any room for the great multitude of nice things, the usually numerous family was supposed to possess? There was none. There was hardly room enough for a moderately large family to sleep, much less for displaying or storing any amount of furniture, of which the skilled mechanic, even, in those good old times possessed very little. The house of a skilled mechanic in those days generally consisted of two, not over large, rooms with a little kitchen, while up stairs, directly under the low roof, also used for lumber room, the larger children and the aged people might sleep, and on severe winter nights were liable to catch cold, so that pneumonia often had a chance to carry them off, long before their time, and on hot summer nights the atmosphere was so oppressive that sleep was out of the question. Laborers' dwellings in the country usually were nothing but hovels, owing to high cost of transportation, and the small earnings, which caused the country laborer to pine for the luxuries of city life, and despotic rulers as well as paternal (!) lords of the soil, were obliged to pass ordinances, prohibiting the country laborer from trying to better his wretched condition in the city, where his lot would not be improved very much, anyway. Clothing as well

as fuel and food stuffs, during those good old times were much higher in price, and wages at least ten times lower than ruling wages in this country, so that many an able mechanic's house during the winter's cold was not at all, or very insufficiently heated, the body insufficiently protected against the inclemency of the weather, and the stomach fed upon victuals which, especially for growing children, were far from being sufficient. There was, particularly in winter, so little employment for the great majority of toilers, that charity always had to step in, while the half starved multitudes often resorted to riot or other unlawful acts, and the country swarmed with vagabonds who many a time banded together for the purpose of plunder and rapine, so that more than once the military had to be called out to suppress them. The above is not a very complete, rather mild, description of conditions in the good old times, but it is enough to show that they were not sufficiently favorable to wish them back.

Wherever labor saving machinery has been generally introduced, a change has been effected which put those good old hand working times entirely to shame. The cheapening of building material of every description, as a result of the application of labor saving machinery has not only provided the skilled mechanic with decent homes (especially in smaller towns and country districts, where ground rents are low) and likewise with good furniture, but his living rooms have been supplied with comforts such as could not be procured by the well to do of the good old times, as the inspection of any old middle class house will clearly show, and the inventory of many an ancient estate plainly indicates.

The unskilled laborer of the present time, also, and in those countries where labor saving appliances are most extensively used, is much better housed, fed and clothed than the most skilled mechanic of olden days, when the absence of labor saving machinery and other discoveries rendered the product so little that the working hours had to be much longer, and the labor to be performed was much more trying and exhausting for all. In those good old times, also, there were nothing but the rich and poor, and there only existed a very small middle class, as is still the case in those countries where labor saving machinery has not yet made much headway. Where labor saving appliances are generally introduced it is true that the rich, as a rule, get richer. But this is not directly owing to the improvement of the aids to production but to the increase in values, especially of city and suburban real estate and mines, as well as of natural or legal monopolies, all of which appreciate with the increase of general prosperity. At the same time a middle class is either formed or very much extended, while on the other hand the workers of every description are better rewarded for their services, and a prospect is opened up to them to acquire property which, under the industrial system of the good old times, was next to impossible.

It is not asserting too much when saying that the excesses of the French Revolution would never have taken place, though the revolution itself would have come much earlier or not at all, if France, between 1789 and 1793 had been industrially and commercially and consequently socially, as well developed as even England was at the time. The numerous middle class could have assisted in suppressing the cruel excesses

of the Paris mob, of whom there would have been considerably less, and Europe would have been spared the convulsions of the Napoleonic wars, with all their train of misery and retrogression.

CHAPTER V.

AGRICULTURE.

The quitting of the country, and the exodus into cities and country towns is often considered a matter of regret. Yet a somewhat closer study of the problem must convince the observer that the conditions, bringing this about, and rendering it possible, are a real blessing to individuals as well as to society at large.

Where, formerly, at least fifty per cent. of a country's population was needed to raise the necessary food stuffs for the other half, at present hardly one-fifth is needed for raising the same and an even larger amount, thus setting free on an average thirty per cent. more of the country people for the production of other commodities or for transportation and distribution. That this must be so is plain from the fact that where, before this, five men were needed to produce a certain quantity of breadstuffs, now only two men are required for producing an even better quality of it. Where, in former times, five people had to be supported for raising a certain amount of produce, now only two people need to be supported for producing a larger quantity. Those other three men, of course, are fed from the same quantity of grain they formerly assisted in getting ready for the market, but they now can be,

and are, supported for producing something else. In other words, where, less than a century ago the primitive conditions of agriculture rendered it necessary that five should be employed in producing the food for the other five, these conditions, owing to inventions and discoveries, have been changed so much for the better, that at present two men are sufficient to raise the foodstuffs for eight, thus setting the others free to do something else for a living, and being supported, not for raising foodstuffs, but for producing other commodities or for rendering other services. The agriculturist who used to employ five men for raising his crops, can and does now employ the three who fall out, either directly or indirectly in other ways: for making and repairing his implements, his drains, his fences, his roads, enlarging his barns, embellishing his house, his furniture; for making his clothing, for preaching, writing, acting, lecturing, transporting, printing, telegraphing, telephoning for him, etc. The yield of the land being, at the present time, in progressive countries, very much larger than in former times, while less people are needed to attend to the product, while its transportation and even the capital needed in its production have been much cheapened, it is plain that the price of the product must have been lowered, thus leaving to every consumer of foodstuffs a large margin to buy other commodities. And this saving in the price of food, and the consequent desire and capability to spend in other directions, sets to work the people rendered superfluous by the application of labor saving devices in agriculture.

What is the reason that at present the agriculturist in long settled districts possesses house and furniture which are in no wise inferior to those of the well to

do in the cities? And why is it that the agricultural laborers, especially in the United States, are immeasurably better situated than their prototypes of less than a century ago? The only answer can be, improved methods in agriculture as well as in all other callings. From the foregoing it must also be plain that the fall in prices of agricultural products has not more than kept pace with the fall in prices of all those commodities whose production has been cheapened by the introduction of modern methods. It is just as impossible for agricultural products to be long sold at immense profits to the producers, as for other commodities, short of monopolies, and the reason for the much talked about depression of agriculture in many European countries, especially Italy, France and Germany, notwithstanding high protective duties, is undoubtedly to be found in backwardness as compared to American methods.

CHAPTER VI.

MANUFACTURING.

The decreased price at which it is at present possible to produce all kinds of commodities has stimulated their consumption, so that, from this cause alone, industries have been very much extended. At the same time, the mastery of man over the forces of nature has rendered it possible, in conjunction with labor saving appliances, to utilize many things which were formerly thrown away and lost to consumption, as so much worthless waste. Scientific inventions and discoveries, furthermore, have made it practicable to utilize other gifts of nature, which, before, were either unknown, or, owing to the high cost of working them or

for other causes, were allowed to remain unused, or at least could not be utilized for all they were really worth. From all this it must be evident that a multitude of new commodities have been brought into the market, all requiring large numbers of people to assist in their production and distribution, which commodities fill real wants, make life better worth living.

It is often a matter of complaint that the immensely grand scale upon which nearly all industrial enterprises have to be conducted now a-days, has rendered it impossible for men of small capitals to embark upon manufacturing. But this very fact is cause for rejoicing rather than otherwise, because the many economies practicable in large concerns, are conducive to cheapening the prices of commodities, especially where, owing to untrammelled commerce, the industrial enterprises are kept busy the year 'round, and the producers can procure not only without additional cost the foreign materials they want, but furthermore do not need to charge additional profits upon the commodities they produce, owing to the fact that their plant and capital or portions of it, do not need to stand idle during several months of the year.

And even small capitalists, by co operating for the purpose of acquiring power, or even by individually renting power from outside concerns, are often enabled to keep small factories running. Many a building, also, is rented in parts or by floors to a number of small manufacturers, where the expenses for boilers, fuel, engineer, fireman, watchman, elevator, heating, etc., is charged upon the rent, whereby those small manufacturers derive the full benefit of improved methods, and thus are enabled to successfully compete with the larger ones in their line of business.

CHAPTER VII.

COMMERCE.

It is beyond dispute, demonstrated by the experience of centuries, that commerce is the most influential promoter of agriculture and industry, as well as the most potent factor in the process of civilization.

If it were not for commerce, every individual or family would be obliged to themselves produce their necessities, and in such a case the lot of the human race, especially in more rigorous climates, would be universally miserable. Nobody, then, would be able to boast of even the most primitive comforts, while it would be extremely difficult to procure even the very necessities of life, and the poorest laborer in our present state of society would be immeasurably richer than the wealthiest individual in the community where there existed no commerce.

It is almost impossible for any society to exist without commerce, whether external or internal, and even the savage tribes are obliged to resort to it, not only among themselves, but even to some extent with others, unless, indeed they simply take, without paying for what they want, from their weaker but probably more intelligent and industrious neighbors.

Commerce, barter or trade is nothing but the exchange of commodities or services between individuals, communities or sections.

Where the absence of all labor saving appliances, if only a primitive spade, plough, vessel, bridge, road, wagon, and other simple aids to production in a certain society renders it impossible for that society to pro-

duce more than, or even as much as, it needs, it must be plain that there can exist little or no commerce between it and other societies, however much those others may be in need of the products, produced by the backward society. This backward society not only does not enrich its neighbors, but suffers want itself. As soon, however, as it introduces labor saving devices, so that one man can now do the work of two or three, and thus begins to produce more than it needs, it is enabled to satisfy the wants of the other societies, and the latter pay it in exchange with their own surplus product. This shows that both must gain by their commerce, and further proves that the increase in wealth of one section benefits, by way of exchange other sections, which are in need of commodities which can be better produced by the former. From this simple illustration it is plain that, where the spirit of progress through inventions and discoveries enables producers to produce, during the same time, very much more and consequently cheaper than before, and thus to decrease the price of their product, the demand for similar commodities increases in relation to the decrease of price, and commerce, foreign as well as domestic, becomes brisker, while ever more people will find employment in the constantly growing trade. It is on this account that labor saving machinery, far from throwing people out of work, on the contrary increases employment, and at the same time increases the earnings of the employed, more perceptibly if the improvements extend over many branches of productive enterprise, and commerce be not interfered with.

CHAPTER VIII.

ART.

The unparalleled increase of production, and the consequent increase of earnings among the masses, has been of the greatest benefit to the development of art.

Where labor saving machinery has rendered it possible for art to be very much developed, and for the artist to be much better remunerated than before, it has at the same time made it practicable to multiply a thousand fold the products of art itself, enabling even the humblest worker to possess good copies of great masterpieces which, no longer than half a century ago, could only adorn the galleries or chambers of the opulent, while nearly everybody else had to be satisfied with cheap, usually not very artistically executed prints. Labor saving devices, even, have brought about the emancipation of those who follow art for a living. Where, formerly, poets as well as most composers, painters, sculptors and other men of genius were almost entirely dependent, during a large portion of their life, upon the favor and patronage of some wealthy protector, and were, in many instances, not much better treated than favored beggars, even by the very menials of their patron, this humiliating condition has now been entirely changed. With the greater diffusion of wealth, the purchasing power of the masses has increased, while at the same time the number of people, able to purchase original paintings, etchings, statuary and other products of genius, has very much increased also. At the same time and from the same

beneficent cause, public and private libraries and galleries are being established all over, and not only awaken a taste for art among the public, but are themselves in a condition to buy many and precious art works.

These favorable conditions, moreover, have brought it about that thousands of artists of every description now find remunerative employment in painting, drawing, moulding for the masses through newspapers, magazines, illustrated books, etc. At the same time the educated taste of the public requires artistic designs for nearly every article they use, and thousands of other artists are employed in creating those tasty designs in the furniture and other fixtures which embellish drawing rooms as well as kitchens, railroad cars, steamboats, public and private buildings, in short nearly every article of human workmanship. With the growing taste for art, and the increased purchasing power of the masses, the artistic trades, also, have been much developed, and at present hundreds are employed in them where before this they did not offer employment to scores of people.

CHAPTER IX.

STORES.

That labor saving machinery, far from displacing workers, simply leads employment into other channels, is furthermore plainly shown by the immense number of warehouses, stores, offices, and other distributive agencies, lining the principal thoroughfares of the large cities not only, but of considerable villages as well. All of these have increased so much since, and

as a consequence of, the general introduction of labor saving appliances, and the consequent increase of products. One of the surest means of gauging a section's prosperity is by taking stock of the number, extent and equipment of its stores, unless, as is the case with many Italian cities for instance, great multitudes of tourists from more advanced and prosperous countries visit and buy there. Though it be true that the tendency here, as in every other department of production and distribution is towards concentration and centralization, it is also true that those so called department stores are mostly conducted upon aggregated capital, while average salaries are higher, and there is, at the same time, more chance for promotion than in the smaller ones. And, besides, those immense emporiums, owing to large purchases, quick sales, systematic management and other economies, are in a condition to sell at lower prices than small concerns, and thus directly benefit the great army of consumers, while the lower prices naturally stimulate consumption, and thus aid production. The number of managers, superintendents, buyers, cashiers, clerks, delivery men, packers, and other functionaries employed in stores is simply immense, while every improvement in productive processes, and consequent cheapening of products, constantly increases the number and magnitude of stores, and thus opens up ever new avenues for employment in other than purely productive undertakings. If, which is impossible, machinery could be perfected to such a degree, that it could do the whole work of production without the guidance of human hand or brain, it is safe to say that every worker, thus displaced would find almost immediately more pleasant, more remunerative, less grinding employment in

distributive channels, such as stores, offices, transportation, etc. This is self-evident from the fact that, where there is a large product there must be a correspondingly large number of distributors, and consequently where production is almost gratuitous and unlimited, the possibilities for distribution only end with the number of available distributors. And, whereas, the price of commodities, in case machinery could be made self acting, would be very considerably cheapened, the purchasing power of all classes of society would have increased to such an extent that, what are at present luxuries to most people, could then be bought for considerably less money, and thus become articles of every day use.

CHAPTER X.

EMPLOYMENT.

A comparison between the directory of New York city of the present time and of half a century ago, will show that at present there are a great many more occupations than at the period just mentioned. And that the increase in occupations is not merely owing to the growth of the city's population alone, is clearly shown by the fact that other commercial seaboard cities of about the same population New York had fifty years ago, have pretty near the same variety of occupations as the world's future metropolis. The increase in the number and variety of callings is contemporaneous with, and directly traceable to, the development of labor saving machinery and other improved methods in production and distribution, plainly indicating, as was already shown on another

page, that labor or time saving devices, far from throwing people out of work, on the contrary open up avenues for increased and more remunerative employment. At the same time the conveniences, and general as well as individual comforts of all classes of the people have increased, because, while wages have advanced, the prices of all commodities have fallen. History here again presents a telling example of the beneficial influence of the more universal application of labor saving devices. In order to learn how generally miserable was the condition of the working classes, how frequent and how long large numbers of them were without employment in the good, old, hand-working times, it is only necessary to read the chronicles of ancient cities, or to glance over the biographies of many great men of those days who rose from humble conditions to eminence. In those biographies, if only incidentally, nearly always some allusion is made to the wretched state of the common people which will show that even the skilled mechanic in those happy hand-working days could command much less of the necessaries of life in exchange for his long hours of labor, than are at present earned by the commonest laborer in those countries, where labor saving machinery is most extensively applied. Wages in those days were not only lower, commodities higher in price, but the percentage of those who, during a considerable portion of the year, were out of employment appears to have been, at least, as large as at present.

It is further also to be observed that never before in the world's history were there so many callings or professions which, though neither directly productive nor distributive, yet satisfy individual or social wants. Not to speak of the large increase in the number of

authors, actors, physicians, dentists, lecturers, translators, lawyers, ministers, artists, administrators, etc., there are at present multitudes of newspaper men like editors, reporters, reviewers, interviewers, etc., further insurance men, telegraph operators, phrenologists, manicurists, chiropodists, genealogists, stenographers, typewriters, scientists, photographers, electricians, engineers, elevator men and innumerable hosts of other servants of the public who were not known before, and who at present are much in demand, because the greater diffusion of wealth among all classes of society, since and as a consequence of, the more general application of labor saving machinery has not only rendered a division and increase of employments practicable, but also makes it possible for specialists in almost every branch of human knowledge and enterprise to be supported by a very much increased demand, and the financial ability of the great public to avail themselves of their services.

CHAPTER XI.

WOMAN AND CHILD LABOR.

That time and labor saving appliances, and production increasing devices do not take away employment, but on the contrary increase employments is very plain from the facts that :

1. They cause an increase in the purchasing power of the consumers.
2. They cause a decrease in the prices of commodities.

Consequently, existing industries extend their

operations, and new industries are introduced, thus continually causing a demand for workers in new fields. This is the reason why, especially in the United States, where labor saving machinery is most generally applied, you will find so many people, who easily change from one occupation to another. When work in their particular line is slack, they can much more easily find employment in other lines than in those countries where backwardness in production increasing appliances causes a stability in employments which is far from being favorable to the welfare and earning capacity of the working classes, because, in case of depression in one or more occupations, it is next to impossible for those concerned, to find anything else to do.

At the same time labor saving machinery has opened up avenues of more genteel or less exposed employment, at much improved wages for women, children and aged or weak males who before this were obliged to do much work entirely unsuited to their sex and strength, while old and weak men, much more than at present, were forced to beg or go to the poorhouse, because there was not light work enough to keep them employed. There is also no denying the fact that women, and even children, in those countries which are backward in labor saving appliances, are obliged to share with the men the roughest, most exposed, most unwomanly work. Why? In the first place because wages in those countries, even for skilled labor, are very low, and the women and young children, even, are obliged to assist in supporting the family. In the second place, because cruder methods of production necessitate rougher work all along the line, and it thus stands to reason that a large percentage of womer

and half grown children are obliged to take part in labors which nature destined for strong men only. It is in most instances not the inhumanity or laziness of husbands or fathers which in all less advanced countries forces women and children to labor above their strength, but firstly, the pitifully low wages a man there earns, and secondly, the absence of such employments which are, by common consent, deemed more womanly and fit for children. It is also to be observed that in countries with a highly developed industrial system, less women and children work out than in countries which are backward in this respect. It stands to reason. Wages in similar well developed countries are several times higher than in the backward ones, and the breadwinner of the family can more easily afford to keep some of the women and certainly the younger children at home.

That the employment of women in a normal state of society, does *not* compete with man's chances of work, must also be plain from the fact that women and children, as well as men, produce values or commodities. Consequently, where a woman or child works, they create, through their earnings, a demand for other people's services or commodities, and thus cause others to work for them. Their labor opens up employment for others, and, as a consequence, assists others in finding work. As long as there is freedom of exchange, the products of the various sections of the world are traded for each other, and consequently every worker furnishes employment for others whether far or near. In a normal state of society, therefore, the work ought to compete for workers, not workers for work, and the avenues for employment ought to increase with the increase of the number of workers. If that were not

the case, the less people were productively employed, the better off everybody would be.

The clamor about women and children competing with men, and through their competition decreasing wages is equally unfounded, for the very reason that, where conditions are normal, all are paid according to what they produce, because, in a normal society, work should seek the workers, and consequently the highest possible wages would be offered. If the women and children who are at present productively employed should all of a sudden and for a long time stop working, a larger number of men would be temporarily thrown out of work than at present while most of the men would be obliged to work at lower wages than they at present receive, because all of the simpler work, now done by unskilled women and children would then have to be done by men, who before could and did earn more, because they got more skillful work to do. In that case they would clamor louder for a return of the women and children, than at present they do against their employment. One reason for the high wages skilled workmen receive, is the ability to keep them at what they excel in, while others perform the less delicate operations in the productive process. If, owing to the absence of women or young people, those skilled workmen were obliged to perform operations requiring much less skill, it is plain that the general value of their services would be lessened, and consequently their earnings would be decreased. This principle of not allowing a superior workman to do inferior work, as was often the case in former times, when labor saving devices had not facilitated a minute division of employments, is one of the causes why skilled laborers now a days earn many times more,

than the same class of workers did formerly, and also of the much higher wages earned by those who perform the less skillful or less delicate portions.

Nor, in a normal state of society, would there be any reason for the assertion that women underbid men for work. This could never have occurred, if commercial restrictions had not cut off exchange in the products of many industries to such an extent that during some portions of the year they were forced to suspend operations, because the home market has been provided for and foreign markets cannot be reached. For, as stated before, where the exchange of commodities is left free, and one section of the world is allowed to freely buy from other sections, the demand for each other's products is such, that one set of workers always furnishes employment for another set, and all are kept busy. In such a case work will seek the workers, and every one will receive what she or he really earns, that is produces, not what the need of the moment render them willing to accept. Women need in no wise to compete against men in work or wages. Where they receive less wages for the same work, they as a rule either don't earn more, or else they are employed upon work which, from its very nature, being less arduous, or requiring less skill, or for other like reasons, entitles to less remuneration.

Every person, productively engaged, creates a demand for work in another direction, and if, where women work, men are without employment, it cannot be because those women produce. Such men may be out of work, just at present, because there is no direct demand for their services owing to destructive fires, floods, shipwrecks, failure of crops, failures in business, wars, unproductive investments, governmental

interference with commerce, unpropitious weather, change in taste or fashions, and for so many other reasons which, though not apparent to the casual beholder, are nevertheless real and potent.

And the argument that women replace men, because they can afford to work for less wages, owing to their not having families to support, is in many instances not valid, and may as well, and often with more right, be argued against unmarried men or married men without children. The truth is that everybody, whether man or woman, tries to get as much as possible for their labor, and it is only in times of general stagnation in business that men and women alike offer their services at less than they used to earn in more favorable times. And why should not a woman have the same right to work at what she is fit for, and likes to do, as a man? She is not man's inferior, and her labor is just as valuable, while she has just as much need to support herself as a man. Consequently, she also looks for work which pays best, while the fact that she invades man's domain lowers no man's wages, and deprives no man of employment, and, furthermore, many an occupation partially or wholly monopolized by men seems naturally to belong to women.

As was stated before, women and young children, in backward countries, much more than in those countries where labor saving machinery is most extensively utilized, are obliged to assist the husbands and fathers in supporting the family. Consequently, the more labor saving devices are perfected, and introduced into every branch of productive and distributive enterprise, the less women and young children will be obliged to go to work, because the breadwinner of the family will then be in a condition to earn enough to permit them to stay at home.

CHAPTER XII.

DIFFERENCE IN WAGES.

It is a well established fact that wages cannot possibly be more than the amount of product a worker produces. Besides other less important things, the materials to be worked, as well as the tools or implements to work with, are the great factors in fixing a worker's earnings. It is for those reasons that in the same country, and in the same industry, even, there very often is, and necessarily must be, a considerable difference in earnings or wages. The more advanced some industries are in relation to others, the more they will produce, and consequently the higher can be the earnings of the people engaged in them. And where machinery has rendered possible a large product in all occupations where it is practicable to use labor saving devices, it is plain that a general fall in prices must take place which, of course, is equivalent to an increase of real wages, while at the same time, owing to greater centralization, breaking up of monopolies, a better distribution of taxes, greater dexterity in the workers, more perfect systems of banking, as well as the greater abundance and less costly methods of mining and working the precious metals, an actual increase in the money wages also takes place. These two facts: A general fall of prices, and a general rise of wages are most plainly brought out, when comparing price lists of commodities, where exchange is free, of the earlier years of the century with those of the present time. When comparing the wages of those countries which lead in the use of time saving devices

with the wages in those which are backward, we shall find that, notwithstanding workingmen in the latter work longer hours, wages there are very much lower. From this it follows that wages are no arbitrary institution, but that they stand in exact proportion to the earning capacity of the enterprises, people are engaged in. And further that, where some or many industries are either unfavorably situated or not as much advanced as other similar industries, there must exist a difference between general earnings of those businesses, and consequently also between the wages, received by the people employed in them.

CHAPTER XIII.

OVERPRODUCTION.

That production increasing devices cause overproduction, and consequently are hurtful, is about as sensible, as to say that propitious weather for the growth of products of agriculture causes overproduction, and therefore is injurious to society. As long as thousands of people, even in the years of greatest abundance of agricultural products have to go without many of those products, so long there is no overproduction of products of the soil. And as long as many hundreds of thousands of people are not in a condition to procure what they need in the shape of houses, furniture, clothing, utensils, books, etc., etc., so long it is absurd to say that there is overproduction, even if, for a time, the market seems to be overstocked.

This seeming overproduction may in some lines have been brought about by manufacturers or other producers throwing goods on the market which

nobody or only a few want. Or it may have been caused by some great calamity, preventing the people thus visited by disaster, from purchasing what they need, and consequently throwing out of work many people who, in various ways and even at great distances, used to produce for them. Or it may be caused by the notion of a country's lawmakers and manufacturers that it is more profitable to produce only for the limited millions within their own borders, than for the many hundreds of millions who live and produce outside of it, thus preventing large numbers of people during a large portion of each year, from being employed. The fact is that "underproduction" is more responsible for lack of employment in many occupations than anything else, and consequently labor saving machinery is in no wise to blame for any temporary or permanent stagnation in business, and consequent difficulty in finding employment, especially because in countries, where little or no labor saving machinery is used, conditions are not any more favorable.

CHAPTER XIV.

THE LABOR QUESTION.

Labor saving machinery has more to do with the labor question than at a first glance would seem to be the case. Machinery has rendered it possible for the cities to grow and to be filled with factories of every description, thus bringing together within narrow limits tens and hundreds of thousands of people, earning their daily bread by the labor of their hands. Those hundreds of thousands, daily observing the in-

equality of social position, and financial condition between the members of the same community, naturally are eager to bring about an improvement in their own condition, and where they are unable to attain this goal by individual efforts, they attempt to reach it collectively, by unions, societies, groups, fraternities, etc. Many social philosophers have promulgated their views about the best means of solving the difficult question of a more equal distribution of the product of human labor, and their followers are known as Socialists, Communists, Anarchists, Co operators, Single Taxers, Populists, etc.

Now it must be evident that as long as the adherents of these various doctrines simply confine themselves to peaceably propagating their various creeds, they must be accorded the same liberty, granted to defenders of the present system, because to deny them this liberty would be interfering with their fundamental rights. It is only where hopeless poverty, leading to degrading misery, keeps the masses down, and slowly grinds the life out of them, depriving them of the common intelligence to reason and to weigh even simple evidence, that the partisans of some of the above mentioned creeds have recourse to violence. And it is also remarkable that the two countries, Great Britain and the United States, where modern methods in production and distribution are most extensively applied, are likewise more than any other manufacturing country exempt from the subversive tendencies, engendered by the social question. The reason undoubtedly is that labor saving machinery has increased production in the former two countries to such an extent, that the working people, while working less hours, yet receive much higher wages than anywhere else. Consequently

as a body they are not only more intelligent but also more hopeful, and therefore more self reliant and conservative than their downtrodden brethren in other lands, and look forward to a rational settlement of the labor question rather than having recourse to subversive measures which, as the majority among them very well understand, while it may ruin the capitalistic class, must inevitably ruin them also.

But whereas labor saving machinery is largely responsible for the labor question, it is through machinery also that it must be solved. From all appearances the production-increasing appliances, even at present, are only yet in their infancy. With their increasing perfection the earnings of the operatives in factories, and in all other occupations, must increase also, the working hours decrease, and the workers will not only acquire the necessary education and leisure to intelligently discuss and study all phases of the social problem, but will become financially able to emancipate themselves.

Industrial evolution with its increase in wealth for the masses, rather than social subversion with its destruction of property and the means of earning a living, must lead to a solution of the burning question of the day.

It is to production-increasing appliances therefore, to the inventors, that the workers must first of all look for a radical improvement in their condition in the future, as they have already done much for them in the past. The emancipation of the toilers is primarily a question of production. With little product, only small distribution, and consequently low wages, with all their attending misery. It is on this account, also, that the workingmen act against their own interests

when opposing the introduction of improved labor saving devices. Experience has shown that the nations which are most advanced in this respect, are the ones where the workers are most prosperous and influential. Consequently to oppose what leads to prosperity and influence is, in reality, to put back the time for the solution of the labor problem, and the emancipation of the toilers.

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